



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Prior application: Examiner Christian Chace
 Art Unit 2187

Commissioner for Patents
 P.O. Box 1450
 Mail Stop PATENT APPLICATION
 Alexandria, VA 22313-1450

Sir:

This is a request for filing a ☒ continuation ☐ divisional application under 37 CFR § 1.53(b), of pending prior application no. 09/458,582 filed on December 9, 1999.

of Kevin S. Donnelly, John B. Dillon, Mark Johnson and Chanh Vi Tran
 (inventor(s) currently of record in prior application)

for TRANSCEIVER WITH LATENCY ALIGNMENT CIRCUITRY
 (title of invention)

1. ☒ The filing fee is calculated below:

PATENT APPLICATION FEE VALUE

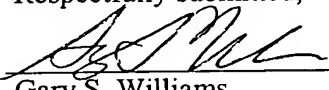
TYPE	NO. FILED	LESS	EXTRA	EXTRA RATE	FEE
Total Claims	32	- 20	12	\$18.00 each	\$ 216.00
Independent	3	- 3	0	\$86.00 each	\$ 0.00
Minimum Fee					\$ 770.00
Multiple Dependency Fee					
If Applicable (\$290.00)					\$ 0.00
Total					\$ 986.00
Applicant qualifies for the 50% Reduction for Independent Inventor, Nonprofit Organization or Small Business Concern					\$ 0.00
Total Filing Fee					\$ 986.00

2. ☒ Please charge the required fee to Pennie & Edmonds LLP Deposit Account No. 16-1150. A copy of this sheet is enclosed.
- 3a. ☐ A Preliminary Amendment is enclosed.
- 3b. ☒ A new specification, substantially identical to the pending prior application and containing no new matter, is enclosed.
- 4a. ☐ New formal drawings are enclosed.
- 4b. ☒ Informal drawings are enclosed.
- 5a. ☐ Priority of application no. filed on in is claimed under 35 U.S.C. §119.

- 5b. ☐ The certified copy has been filed in prior application no. , filed .
6. ☒ The prior application is assigned of record to Rambus Inc..
- 7a. ☒ A copy of the Declaration and Power of Attorney filed in the prior application no. 09/458,582, filed December 9, 1999 is enclosed.
- 7b. ☐ A copy of the Power of Attorney by Assignee with revocation filed in the prior application no. 09/458,582 filed December 9, 1999 is enclosed.
8. ☐ This application contains nucleic acid and/or amino acid sequences required to be disclosed in a Sequence Listing under 37 CFR §§1.821-1.825. It is requested that the Sequence Listing in computer readable form from prior application no., filed on be made a part of the present application as provided for by 37 C.F.R. §1.821(e). The sequences disclosed therein are the same as the sequences disclosed in this application. A copy of the paper Sequence Listing from application no. is enclosed.
9. ☐ The undersigned states, under 37 C.F.R. §1.821(f), that the content of the enclosed paper Sequence Listing from application no. is the same as the content of the computer readable form submitted in application no. .
10. ☐ DO NOT PUBLISH. I hereby certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing. I hereby request that the attached application not be published under 35 U.S.C. 122(b).
11. ☐ Additional enclosures or instruction

Respectfully submitted,

Date October 31, 2003


 Gary S. Williams
 PENNIE & EDMONDS LLP
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31,066
 (Reg. No.)



US006643752B1

(12) **United States Patent**
Donnelly et al.

(10) **Patent No.:** **US 6,643,752 B1**
(45) **Date of Patent:** **Nov. 4, 2003**

(54) **TRANSCEIVER WITH LATENCY
ALIGNMENT CIRCUITRY**

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(73) Assignee: **Rambus Inc.**, Los Altos, CA (US)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/458,582**

(22) Filed: **Dec. 9, 1999**

(51) Int. Cl.⁷ **G06F 12/00**

(52) U.S. Cl. **711/167; 365/233; 709/217;
709/248; 709/400; 710/25; 710/29; 710/36;
710/58; 713/400; 713/500; 713/600**

(58) Field of Search **365/189.05, 189.07,
365/189.08, 191, 233; 709/208, 217, 232,
248, 400; 710/6, 25, 29, 36, 45, 58, 60,
61, 106; 711/154, 167; 713/400, 500, 600**

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(57) **ABSTRACT**

A transceiver system is described. A secondary memory module is coupled to a primary channel for receiving data and signals from a controller. The secondary memory module comprises a memory and a secondary channel for transmitting the data and control signals to the memory. The secondary memory module further comprises a transceiver coupled to the primary channel and the secondary channel. The transceiver is designed to electrically isolate the secondary channel from the primary channel. The transceiver is a low latency repeater to permit the data and the control signals from the controller to reach the memory, such that a latency of a data request from the controller is independent of a distance of the transceiver from the controller.

25 Claims, 9 Drawing Sheets

